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Please Compute  $U_1$  And  $V$  As A Function Of  $U_0$ . Please Leave Your Answer (for This Part) In Terms Of  $U_0$ ; No Need To Expand Out The Relation Explicitly. Sol. We Simply Compute:  $U_1 = P \sqrt{1 + (U_0)^2} = P \sqrt{2gx + G^2x^2}$  And Thus:  $V = U_1 U_0 = P \sqrt{2gx + G^2x^2} (1 + Gx)$  (b) Calculate  $V(x)$  In The Limits Of  $x \rightarrow 0$  (to Lowest Non-vanishing ... Feb 15th, 2024)

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